Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

part deals with positive reactions, while the second part will deal with the negative. SHIBATA himself has contributed no small part of the knowledge in this field, especially with the forms *Isoetes*, *Salvinia*, and *Equisetum*. The paper is divided into seven sections dealing with the following phases of the subject: (1) introduction and methods, (2) action of organic acids, (3) action of metallic ions, (4) action of H and OH ions, (5) action of alkaloids and other organic bases, (6) application of the Weber-Fechner Law, (7) the classes of chemotactic sensibility and their relation to each other.

The body of facts is so great that no statement of it can be attempted here. Some of the generalizations, however, especially those derived from the seventh section, are of considerable interest. SHIBATA concludes that there exists in the pteridophytes three categories of positive chemotactic sensibility: (1) for the anions of malic acid and of the related dicarboxyl acids, (2) for the OH ion (only in *Isoetes*), (3) for cations of metals and hydrogen and for alkaloids. The three categories are entirely independent, as indicated by the lack of antagonistic action between members of different categories. Within the same category one member dulls the action of any other. In general, the dulling effect is proportional to the attractive value, but this is not always the case. Citrate, which is 1/10 as powerful in attracting *Salvinia* sperms as is maleate, is just as effective in dulling the action of maleate as is maleate itself. SHIBATA believes that in chemo-perception within a given category either the first links or at least early links in the chain of perception are identical. He contrasts this situation with that found by KNIEP in certain bacterial forms, who concluded that each individual substance is separately perceived. He found no dulling action between any two chemotactically active substances.—WILLIAM CROCKER.

Coremia formation by Penicillium.—By methods which at the present stage of plant physiology appear somewhat crude and superficial, WÄCHTER[33] has attempted to find the factors influencing the formation of coremia in a form of *Penicillium*, which he designates by the usual name of *P. glaucum*, but which can be easily identified as *P. expansum* Link. The method of study consisted in growing the fungus on sterilized slices of various fruits and vegetables, and on the expressed juices of these, and also on an inorganic nutrient solution with various concentrations of sugar, this being the only medium approximating anything like known conditions. When the results are sifted, we are left in the same position as before as to the factors which influence the formation of coremia, namely, that when grown on various substrata of unknown composition this form (like other coremia-forming species) sometimes forms coremia and sometimes not, a fact, moreover, clearly formulated by THOM[34] in regard to this and other species of similar habit. The work of

---

[33] WÄCHTER, W., Ueber die Koremien von *Penicillium glaucum*. Jahrb. Wiss. Bot. **48**:521–548. 1910.

[34] THOM, CH., Cultural studies of species of *Penicillium*. U.S. Dept. Agr., Bur. Animal Industry, Bull. 118. 1910.

THOM, however, came to the author's hands only in time to be noted in the proof. A closer approximation to definitely known conditions, if not yielding positive results, might at least have resulted in excluding certain groups of factors as having no influence on the formation of coremia.

In the latter part of the paper, the author distinguishes 11 forms of *Penicillium* by their growth characters on the substrata which he used in the first part. The forms are not further characterized nor identified with other descriptions. The author lays stress on cultural characteristics, and the utilization of the coremia-forming habit for separating the species of *Penicillium*. Both have been used by THOM in his partial monograph of the group. —H. HASSELBRING.

Feed containing smut spores.—The feeding of grain products containing large quantities of smut spores to animals has usually been regarded as pernicious, both on account of the widespread belief, supposed to be based on practical experience, that the smut spores are injurious to animals, and on account of the danger that the spores pass uninjured through the animal body and, as asserted by BREFELD, become a source of infection when they are distributed over the fields in manure. These questions have been reinvestigated by HONCAMP and ZIMMERMANN,[35] who as a result of feeding experiments, in which large quantities of smut spores, mostly of *Tilletia caries* with some of *T. laevis*, were fed to different domestic animals for long periods of time, came to the conclusion that in no case could any injury be definitely attributed to the smut spores. The spores which had passed through the bodies of animals, with rare exception, were incapable of germination. Further experiments showed that sound spores mixed with manure or other fertilizers and scattered over the soil rarely cause infection of grain. These experiments indicate that the danger of infection from smut spores scattered over the fields in manure has been largely overestimated. This is true more particularly of the spores that have passed through the animal body. The only source of infection to be regarded of significance in agricultural practice is that from the spores adhering to the seed grain, a fact which may be inferred from the almost total prevention of smut by treatment of the seed grain.—H. HASSELBRING.

Temperate plants in Helgoland.—Since the spring of 1904, KUCKUCK has been experimenting with the introduction into Helgoland of various species of plants of warm temperate climates.[36] Although situated but 30

---

[35] HONCAMP, FR., und ZIMMERMANN, H. (unter Mitwirkung von G. SCHNEIDER), Untersuchungen über das Verhalten von Brandsporen im Tierkörper und im Stalldünger. Centralbl. Bakt. II. **28**:590–607. 1910.

[36] KUCKUCK, P., Ueber die Eingewohnung von Pflanzen wärmerer Zonen auf Helgoland. Bot. Zeit. **68**^{1}:49–86. *pls. 1–3. figs. 2.* 1910.